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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,945	03/02/2004	Murray Steven Rodgers	50060-00143	2174

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EXAMINER

DOTY, HEATHER ANNE

ART UNIT PAPER NUMBER

2813

DATE MAILED: 11/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/790,945

Applicant(s)

RODGERS, MURRAY STEVEN

Examiner

Heather A. Doty

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
4a) Of the above claim(s) 10-23 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-9 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 02 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. 20051109.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-23 in the reply filed on September 20, 2005 is acknowledged. Additionally, Applicant's further oral election without traverse of Species I, corresponding to claims 1-9, in a phone call on November 9, 2005 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by DeBar et al. (U.S. 2004/0008238).

Regarding claim 1, DeBar et al. teaches a MEM apparatus comprising a substrate (**52** in Fig. 25); a first structure supported on said substrate (**24** in Fig. 25); an electrostatic component disposed between said substrate and said first structure and extending across an area of said substrate (electrostatic actuator comprising elements **28**, **36**, and **38** in Fig. 25); and at least one support structure disposed within said area of said substrate for supporting said first structure (unlabelled vertical portions of layer **24** on far left- and right-hand sides of Fig. 25).

Regarding claim 2-4, DeBar et al. teaches a MEM apparatus as set forth in claim 1, wherein said electrostatic component comprises a movable electrode (**28** and **36** in Fig. 25; paragraph 0023) and a static electrode (**38** in Fig. 25; paragraph 0023).

Regarding claim 5, DeBar et al. teaches a MEM apparatus as set forth in claim 4, wherein said support structure is positioned proximate to said static electrode (Fig. 25 shows the support structures proximate all three electrodes).

Regarding claim 6, DeBar et al. teaches a MEM apparatus as set forth in claim 1, wherein said support structure has a height, relative to an axis extending between said first structure and said substrate, greater than a height of said electrostatic component, wherein said support structure maintains a separation between said first structure and said electrostatic component (Fig. 25 shows support structures extending from the substrate upward beyond the height of the electrodes).

Regarding claim 7, DeBar et al. teaches a MEM apparatus as set forth in claim 1, wherein at least one support structure comprises multiple support structures distributed across an area of said first structure (Fig. 25 shows two support structures—one on the left side and one on the right side of the area).

Regarding claim 8, DeBar et al. teaches a MEM apparatus as set forth in claim 1, wherein said support structure is substantially electrically isolated from said electrostatic component (Fig. 25 shows the support structure totally isolated from the electrodes).

Regarding claim 9, DeBar et al. teaches a MEM apparatus as set forth in claim 1, wherein said electrostatic element comprises a movable element that is movable across a range of positions (flexible electrodes **28** and **36**) and said support structure is

positioned to avoid mechanical interference with said movable element as said movable element moves across said range of positions (Fig. 25).

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dhuler (U.S. 6,215,644) teaches a MEMS device having a first structure (24 on cover page) supported on a substrate, an electrostatic component (electrodes 12 and 28), and support structures (32).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heather A. Doty, whose telephone number is 571-272-8429. The examiner can normally be reached on M-F, 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr., can be reached at 571-272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

had


DAVID BLUM
PRIMARY EXAMINER